

REMARKS

In the Office Action mailed March 27, 2007, the Examiner objected to claim 37 for the lack of antecedent basis. Specifically, the Examiner correctly indicated that claim 37 claims a “method, as set forth in claim 29” but that claim 29 was a system claim, not a method claim. By the present response, claim 37 has been amended to indicate that the claim is directed to the “system” of claim 29.

In the Office Action, claims 1-8, 10, 13-15, 18 and 21-37 were rejected under 35 USC §102(b) as being anticipated by the Ehlers U.S. Patent No. 5,572,438. Claims 9 and 20 were rejected under 35 USC §103(a) as being unpatentable over the Ehlers ‘438 patent in view of the Sterling U.S. Patent No. 4,317,175. Claims 11-12 were rejected under 35 USC §103(a) as being unpatentable over the Ehlers ‘438 patent in view of the Koperda U.S. Patent No. 6,230,203. Claims 16-17 were rejected under §102(a) over the Ehlers ‘438 patent in view of the Routtenberg U.S. Publication No. 2002/0049717. Finally, claim 19 was rejected under §103(a) as being unpatentable over the Ehlers ‘438 patent in view of the Lortz U.S. Patent No. 6,876,889.

Reconsideration of the above claim rejections is respectfully requested in view of the foregoing claim amendments, as well as the following arguments for allowance.

Independent Claim 1

By the present response, independent claim 1 has been amended to more clearly define the method of the present invention. Specifically, independent claim 1 has been generally amended to incorporate the subject matter of now cancelled claims 6, 11 and 21. As amended, claim 1 is directed to a method of managing demand for a commodity that is provided by a utility to at least one customer site, where the customer site has a plurality of devices that consume the commodity. As required by claim 1, the utility defines an energy management program that has a subset of the plurality of devices for which usage of the commodity may be managed by activating the energy management program. Management of the commodity usage typically includes a reduction in the amount of the commodity consumed by the plurality of devices.

Each of the nodes associated with the energy consuming devices measures the instantaneous rate at which the commodity is being delivered to the device associated to the node. The measured instantaneous rate of the commodity being delivered to the associated device is received at the utility, in real time, such that the utility can determine, in real time, a capacity of the commodity that can be managed by the utility by activating the energy management program. As required by claim 1, the capacity of the commodity that can be managed is determined by the instantaneous rate at which the commodity is being delivered to the plurality of devices. The determination of the capacity of the commodity that can be managed allows the utility to determine, in real time, the amount of capacity that can be managed if the utility selectively activates the energy management program.

As required by claim 1, the utility selectively activates the energy management program to manage the usage of the commodity by the subset of the devices. After the energy management program has been activated, the utility can determine the actual consumption of the commodity at each of the plurality of devices such that the utility can verify management of the commodity usage for each device following activation of the program.

As set forth above, by utilizing the method of independent claim 1, the utility is able to determine, in real time, a capacity of the commodity that can be managed by the utility by activating the energy management program. Once the utility activates the energy management program to manage the usage of the commodity by the subset of the devices, the utility determines the actual consumption of the commodity at each of the plurality of devices following activation of the program. In this manner, the utility is able to not only activate a program to reduce commodity consumption, but the utility can verify, in real time, the successful management of the commodity usage at each device following the activation of the program. The determination of the commodity consumption following the activation of the program allows the utility the previously unavailable ability to determine whether the activation of the program had the desired

result, in real time, to provide feedback to the utility as to whether additional commodity management steps need to be taken.

In rejecting original claim 1, the Examiner relied upon the Ehlers '438 reference under §102(b). The Examiner also relied upon the Ehlers'438 reference in rejecting claim 6 and 21, the subject of matter of which has been incorporated into amended claim 1. Finally, the Examiner rejected dependent claim 11, which has also been incorporated into claim 1, based upon the combination of the Ehlers '438 reference and the Koperda '203 patent.

In rejecting claim 1, the Examiner stated that the Ehlers '438 reference taught the activation of a program and the responsive managing of usage of a commodity and the determination of an actual consumption of the commodity at the customer site during activation of the program. The applicant objects to such interpretation by the Examiner.

The Ehlers '438 patent does not teach or suggest the step of activating an energy management program at the utility to manage the usage of the commodity by the subset of the devices. In the portion of the Ehlers '438 reference cited by the Examiner (col. 10, lines 13-31), the '438 patent teaches the use of a first computer program and a second computer program at the customer site that monitor the power and current consumption of a load, stores historical data, performs watt-hour meter readings, executes load turn-on/turn-off events and monitors for communication from the utility. The Ehlers '438 reference does not provide any teaching of activating an energy management program, at the utility, to manage the amount of a commodity consumed by a plurality of devices. Although the Ehlers '438 reference teaches computer programs that operate to store historic information and control load turn-on and turn-off events, the Ehlers '438 reference does not provide any teaching of activating an energy management program at the utility, as required by amended independent claim 1.

As amended, independent claim 1 further requires the utility to receive the instantaneous rate at which the commodity is being delivered to each of the devices such that the utility can determine, in real time, a capacity of the commodity that can be

managed by the utility by activating the energy management program. This feature is clearly not taught or suggested, nor rendered obvious, by the Ehlers '438 reference.

In the Office Action, the Examiner cited the Koperda '203 reference for the idea of determining, in real time, a capacity associated with the delivery. Specifically, the Examiner cited col. 4, lines 40-60 and col. 13, lines 6-14. The applicant disagrees with such interpretation by the Examiner.

The Koperda '203 reference is directed to a flexible billing system for a cable subscriber. The Koperda '203 reference does not provide any teaching or suggestion of determining a capacity of a commodity that can be managed by a utility by activation of an energy management program, where the capacity is determined by the instantaneous rate at which the commodity is being delivered to the plurality of devices. This feature is not taught or suggested, nor rendered obvious by either the Ehlers '438 reference alone or in combination with the Koperda '203 patent.

Further, independent claim 1 requires the step of determining an actual consumption of the commodity at each of the plurality of devices following activation of the program such that the utility can verify, in real time, management of the commodity usage at each of the devices following activation of the program. This ability allows the utility to determine whether the activation of the program was successful in managing the amount of commodity being used by the devices of the energy management program. The step of verifying management of the devices was originally included in claim 6. When rejecting claim 6, the Examiner stated that the Ehlers '438 reference taught the step of verifying management of the devices by citing col. 29, lines 24-28 of the Ehlers '438 reference. Once again, the applicant hereby disagrees with such interpretation of the Ehlers '438 reference by the Examiner.

In the section of the Ehlers '438 reference cited by the Examiner, the Ehlers '438 reference teaches that a utility can remotely check that a meter switch has been actuated to disconnect power to a home by interrogating a microcomputer for a meter reading a number of times. If the meter reading does not change, power has been disconnected to

the home. Thus, the Ehlers '438 reference simply teaches that a utility can determine whether power has been cut to a home by determining whether the meter reading meter changes over a successive number of readings. There is not teaching or suggestion in the Ehlers '438 reference that the utility can verify the success of an energy management program by determining the actual consumption of a commodity at each of the plurality of devices following the activation of the program.

Based upon all of the above distinctions, amended independent claim 1 is believed to be allowable over the combination of references cited by the Examiner in the Office Action.

Dependent claim 2-5, 7-10, 12-20 and 22-28 depend directly or indirectly from claim 1 and are thus believed to be allowable based upon the above arguments for allowance as well as in view of the subject matter of each claim.

Specifically, dependent claim 2 requires the step of measuring at least one of a rate and a change in the rate at which the commodity is being delivered to each device of the subset of devices after the activation of the energy management program. The ability of the method to determine either the rate or the change in the rate at which the commodity is being delivered to each device allows the utility operating the method of claim 2 to monitor the managed commodity consumption following activation of the program. In rejecting this claim, the Examiner cited col. 1, lines 38-48 of the Ehlers '438 reference. This portion of the Ehlers'438 reference is directed to the well known practice of utilities to offer rates to customers according to the time of day to encourage customers to operate appliances at off-peak times. In this type of pricing, usage information is time-stamped such that it can be charged at the rate for the time the commodity was consumed. This portion of the Ehlers '438 reference does not teach or suggest the method required by claim 2.

Claim 4 further requires the step of providing at least one of an alternate rate and a billing adjustment to a customer as a function of the actual, measured consumption reduction for each of the customer devices during activation of the energy management

program. This method step allows the utility to provide billing adjustments if the commodity consumption for the customer device is reduced during the activation of the energy management program. This allows the utility to not only verify the reduction in the commodity consumption, but reward the customer, through either an alternate rate or a billing adjustment, if the actual measured commodity consumption for the customer is reduced during activation of the energy management program.

In rejecting claim 4, the Examiner again relied upon the Ehlers '438 reference. However, the Ehlers '438 reference does not provide any teaching of providing either an alternate rate or a billing adjustment as a function of the actual reduction in consumption for each of the customer devices during the activation of an energy management program. Instead, the Ehlers '438 reference teaches time of date pricing (col. 1, lines 38-48), the ability of the customer to communicate to the utility to receive real time energy rate broadcasts, load shedding requests and to send the utility company power outage reports (col. 15, lines 5-11) and finally, the ability of the utility to obtain consumption information that is date and time stamped to facilitate time of day and other variable rate billing operations. The Ehlers '438 patent clearly does not provide any teaching of the subject matter required by dependent claim 4.

Dependent claim 10 further sets forth the step of defining a plurality of programs at the utility where each program has a respective subset of the devices. In rejecting claim 10, the Examiner again relied upon the Ehlers '438 patent. However, the portions of the Ehlers '438 patent relied upon by the Examiner (col. 10, lines 31-38; col. 11, lines 26-36) does not provide any teaching or suggestion of setting up more than one program at the utility where the program includes a subset of devices.

By the present response, new claims 38 and 39 have been added to the application to state that the utility can determine a capacity associated with each of the plurality of programs and that the utility can selectively activate one or more of the plurality of programs to manage commodity consumption. Clearly, the features of claims 38 and 39

are not taught or described, nor rendered obvious by any of the references cited by the Examiner.

Independent Claim 29

By the present response, independent claim 29 has been amended to more specifically define the system for managing demand for a commodity provided by a utility. Specifically, the control system required by claim 29 has been amended to more specifically state that the control system is operable to determine, in real time, a capacity of the commodity that can be managed by the utility by activating the energy management program, where the capacity is the instantaneous rate at which the commodity is being delivered to the subset of the plurality of devices, wherein the control system is further operable to determine in real time, an actual consumption of the commodity by the subset of the plurality of the devices following activation of the energy management program.

As described above in the arguments for allowance of independent claim 1, the Ehlers '438 patent, whether alone or in combination with the Koperda '203 reference, does not teach or suggest, nor render obvious, the subject matter of amended independent claim 29. Specifically, the combination of references cited by the Examiner do not teach or suggest a control system for reducing the delivery of a commodity to a subset of a plurality of devices by activating an energy management program where the control system can determine, in real time, the capacity of the commodity being delivered to the subset of devices and, upon activation of the program, determine an actual consumption of the commodity by the subset of the plurality of devices following activation of the energy management program. The ability of the system to determine the reduction in the consumption of the commodity following the activation of the device for each of the plurality of devices allows the utility to monitor the reduction in commodity consumption on a device-by-device level following the activation of the energy management program. Once again, this feature is not taught or suggested, nor rendered obvious, by the combination of references cited by the Examiner.

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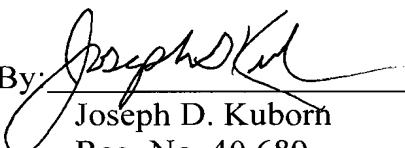
Claims 30-37 depend directly or indirectly from claim 29 and are thus believed to be allowable based upon the above arguments for allowance as well as in view of the subject matter of each claim.

Conclusion

Based upon the above arguments for allowance, the applicant believes claim 1-5, 7-10, 12-20 and 22-37 are allowable over the combination of references cited by the Examiner. The Examiner is invited to contact the applicant's undersigned attorney with any questions or comments, or to otherwise facilitate prosecution of the present application.

Respectfully submitted,

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